Page 1 of 7 1632

DATE: 06/07/2000 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/473,872 TIME: 07:54:39

Input Set : A:\Jef-yool.txt

Output Set: N:\CRF3\06072000\I473872.raw

```
ENTERED
3 <110> APPLICANT: Yoon, Kyonggeun
5 <120> TITLE OF INVENTION: Novel Gene Therapy Methods For The Treatment of Skin
        Disorders
8 <130> FILE REFERENCE: JEFF-YOO01
10 <140> CURRENT APPLICATION NUMBER: 09/473,872
11 <141> CURRENT FILING DATE: 1999-12-28
13 <160> NUMBER OF SEQ ID NOS: 68
15 <170> SOFTWARE: PatentIn Ver. 2.1
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 16
19 <212> TYPE: PRT
20 <213> ORGANISM: Artificial Sequence
22 <220> FEATURE:
23 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse
        tyrosinase polypeptide fragment
26 <400> SEQUENCE: 1
27 Phe Met Gly Phe Asn Cys Gly Asn Ser Lys Phe Gly Phe Gly Pro
31 <210> SEQ ID NO: 2
32 <211> LENGTH: 48
33 <212> TYPE: DNA
34 <213> ORGANISM: Artificial Sequence
36 <220> FEATURE:
37 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse
                                                                      tyrosinase gene fragment
38
40 <400> SEQUENCE: 2
41 ttcatgggtt tcaactgcgg aaactctaag tttggatttg ggggccca
44 <210> SEQ ID NO: 3
45 <211> LENGTH: 48
46 <212> TYPE: DNA
47 <213> ORGANISM: Artificial Sequence
49 <220> FEATURE:
50 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse
        tyrosinase gene fragmet
51
53 <220> FEATURE:
55 <400> SEQUENCE: 3
                                                                    48
56 aagtacccaa agttgacgcc tttgagattc aaacctaaac ccccgggt
59 <210> SEQ ID NO: 4
60 <211> LENGTH: 68
61 <212> TYPE: DNA
62 <213> ORGANISM: Artificial Sequence
64 <220> FEATURE:
65 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric
        oligonucleotide
68 <400> SEQUENCE: 4
69 actgcggaaa ctgtaagttt ggattttta auccaaacut acaguuuccg cagugcgcgt 60
70 tttcgcgc
```

RAW SEQUENCE LISTING DATE: 06/07/2000 PATENT APPLICATION: US/09/473,872 TIME: 07:54:39

Input Set : A:\Jef-yool.txt
Output Set: N:\CRF3\06072000\I473872.raw

73 <210> SEQ ID NO: 5 74 <211> LENGTH: 16 75 <212> TYPE: PRT 76 <213> ORGANISM: Artificial Sequence 78 <220> FEATURE: 79 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse tyrosinase polypeptide fragment 82 <400> SEQUENCE: 5 83 Phe Met Gly Phe Asn Cys Gly Asn Cys Lys Phe Gly Phe Gly Pro 84 1 87 <210> SEQ ID NO: 6 88 <211> LENGTH: 48 89 <212> TYPE: DNA 90 <213> ORGANISM: Artificial Sequence 92 <220> FEATURE: 93 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse tyrosinase gene fragment 96 <400> SEQUENCE: 6 97 ttcatgggtt tcaactgcgg aaactgtaag tttggatttg ggggccca 48 100 <210> SEQ ID NO: 101 <211> LENGTH: 48 102 <212> TYPE: DNA 103 <213> ORGANISM: Artificial Sequence 105 <220> FEATURE: 106 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse 107 tyrosinase gene fragment 109 <400> SEQUENCE: 7 48 110 aagtacccaa agttgacgcc tttgacattc aaacctaaac ccccgggt 113 <210> SEQ ID NO: 8 114 <211> LENGTH: 68 115 <212> TYPE: DNA 116 <213> ORGANISM: Artificial Sequence 118 <220> FEATURE: 119 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric 120 oligonucleotide 122 <400> SEQUENCE: 8 123 actgcggaaa ctctaagttt ggatttttta auccaaacut agaguuuccg cagugcgcgt 60 124 tttcgcgc 127 <210> SEQ ID NO: 9 128 <211> LENGTH: 19 129 <212> TYPE: DNA 130 <213> ORGANISM: Artificial Sequence 132 <220> FEATURE: 133 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer 135 <400> SEQUENCE: 9 136 aagaatgctg cccaccatg 139 <210> SEQ ID NO: 10

140 <211> LENGTH: 26 141 <212> TYPE: DNA

DATE: 06/07/2000 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/473,872 TIME: 07:54:39

Input Set : A:\Jef-yool.txt Output Set: N:\CRF3\06072000\I473872.raw

142 <213> ORGANISM: Artificial Sequence

```
144 <220> FÉATURE:
145 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
147 <400> SEQUENCE: 10
148 gacatagact gagctgatag tatgtt
151 <210> SEQ ID NO: 11
152 <211> LENGTH: 52
153 <212> TYPE: DNA
154 <213> ORGANISM: Artificial Sequence
156 <220> FEATURE:
157 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse DSG3
          gene fragment
158
160 <400> SEQUENCE: 11
161 attocactgg agggaccttg aaggacttat gctgcgccag tcaacatgac tt
164 <210> SEQ ID NO: 12
165 <211> LENGTH: 78
166 <212> TYPE: DNA
167 <213> ORGANISM: Artificial Sequence
169 <220> FEATURE:
170 <223> OTHER INFORMATION: Description of Combined DNA/RNA Molecule:
          Chimeric oligonucleotide
171
173 <220> FEATURE:
174 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric
          oligonucleotide
175
177 <400> SEQUENCE: 12
178 gggaccttga aggactatgc tgcgccagtc ttttgacugg cgcagcatag tccuucaagg 60
179 ucccgcgcgt tttcgcgc
182 <210> SEQ ID NO: 13
183 <211> LENGTH: 52
184 <212> TYPE: DNA
185 <213> ORGANISM: Artificial Sequence
187 <220> FEATURE:
188 <223> OTHER INFORMATION: Description of Artificial Sequence: Mouse DSG3
          gene fragment
189
191 <400> SEQUENCE: 13
192 taaggtgacc tccctggaac ttcctgaata cgacgcggtc agttgtactg aa
195 <210> SEQ ID NO: 14
196 <211> LENGTH: 79
197 <212> TYPE: DNA
198 <213> ORGANISM: Artificial Sequence
200 <220> FEATURE:
201 <223> OTHER INFORMATION: Description of Combined DNA/RNA Molecule:
          Chimeric oligonucleotide
202
204 <220> FEATURE:
205 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric
          oligonucleotide
206
208 <400> SEQUENCE: 14
209 gggaccttga aggactatgc tgcgccagtc ttttgacugg cgcagcauaa guccuucaag 60
210 gucccgcgcg ttttcgcgc
```



RAW SEQUENCE LISTING DATE: 06/07/2000 PATENT APPLICATION: US/09/473,872 TIME: 07:54:39

Input Set : A:\Jef-yool.txt

Output Set: N:\CRF3\06072000\I473872.raw

```
213 <210> SEQ ID NO: 15
214 <211> LENGTH: 79
215 <212> TYPE: DNA
216 <213> ORGANISM: Artificial Sequence
218 <220> FEATURE:
219 <223> OTHER INFORMATION: Description of Combined DNA/RNA Molecule:
220
         Chimeric oligonucleotide
222 <220> FEATURE:
223 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric
          oligonucleotide
226 <400> SEQUENCE: 15
227 gggacettga aggacttatg etgegeeagt ettttgaeug gegeageaua gueeuucaag 60
228 guccegegeg ttttegege
231 <210> SEQ ID NO: 16
232 <211> LENGTH: 39
233 <212> TYPE: DNA
234 <213> ORGANISM: Artificial Sequence
236 <220> FEATURE:
237 <223> OTHER INFORMATION: Description of Artificial Sequence: COL7Al gene
          fragment from a normal human
238
240 <400> SEQUENCE: 16
                                                                       39
241 agccaatcct tgagagtaca gtggacagcg gccagtggc
244 <210> SEQ ID NO: 17
245 <211> LENGTH: 39
246 <212> TYPE: DNA
247 <213> ORGANISM: Artificial Sequence
249 <220> FEATURE:
250 <223> OTHER INFORMATION: Description of Artificial Sequence: COL7Al gene
          fragment from a normal human
253 <400> SEQUENCE: 17
                                                                       39
254 toggttagga actotoatgt cacctgtogc cggtcaccg
257 <210> SEQ ID NO: 18
258 <211> LENGTH: 13
259 <212> TYPE: PRT
260 <213> ORGANISM: Artificial Sequence
262 <220> FEATURE:
263 <223> OTHER INFORMATION: Description of Artificial Sequence: COL7Al
          polypeptide fragment from a normal human
264
266 <400> SEQUENCE: 18
267 Ser Gln Ser Leu Arg Val Gln Met Thr Ala Ala Ser Gly
268 1
271 <210> SEQ ID NO: 19
272 <211> LENGTH: 39
273 <212> TYPE: DNA
274 <213> ORGANISM: Artificial Sequence
276 <220> FEATURE:
277 <223> OTHER INFORMATION: Description of Artificial Sequence: COL7A1 gene
278
         fragment from a human with dystrophic EB
280 <400> SEQUENCE: 19
```

RAW SEQUENCE LISTING DATE: 06/07/2000 PATENT APPLICATION: US/09/473,872 TIME: 07:54:39

Input Set : A:\Jef-yool.txt

Output Set: N:\CRF3\06072000\1473872.raw

```
39
281 agccaatcct tgagagtata gtggacagcg gccagtggc
284 <210> SEQ ID NO: 20
285 <211> LENGTH: 39
286 <212> TYPE: DNA
287 <213> ORGANISM: Artificial Sequence
289 <220> FEATURE:
290 <223> OTHER INFORMATION: Description of Artificial Sequence: COL7A1 gene
          fragment from a human with dystrophic EB
291
293 <400> SEQUENCE: 20
                                                                       39
294 teggttagga acteteatat cacetgtege eggteaceg
297 <210> SEQ ID NO: 21
298 <211> LENGTH: 68
299 <212> TYPE: DNA
300 <213> ORGANISM: Artificial Sequence
302 <220> FEATURE:
303 <223> OTHER INFORMATION: Description of Combined DNA/RNA Molecule:
          Chimeric oligonucleotide
304
306 <220> FEATURE:
307 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric
308
          oligonucleotide
310 <400> SEQUENCE: 21
311 teettgagag tacagtggae ageggtttte egeugueeae tgtacueuca aggagegegt 60
312 tttcgcgc
315 <210> SEQ ID NO: 22
316 <211> LENGTH: 68
317 <212> TYPE: DNA
318 <213> ORGANISM: Artificial Sequence
320 <220> FEATURE:
321 <223> OTHER INFORMATION: Description of Combined DNA/RNA Molecule:
         Chimeric oligonucleotide
322
324 <220> FEATURE:
325 <223> OTHER INFORMATION: Description of Artificial Sequence: Chimeric
          oligonucleotide
328 <400> SEQUENCE: 22
329 teettgagag taaagtggac ageggtttte egeugueeae tttacucuca aggagegegt 60
330 tttcgcgc
333 <210> SEQ ID NO: 23
334 <211> LENGTH: 39
335 <212> TYPE: DNA
336 <213> ORGANISM: Artificial Sequence
338 <220> FEATURE:
339 <223> OTHER INFORMATION: Description of Artificial Sequence: COL7A1 gene
340
          fragment from a normal human
342 <400> SEQUENCE: 23
                                                                       39
343 ggggageetg gaaageetgg tatteeeggg eteceagge
346 <210> SEQ ID NO: 24
347 <211> LENGTH: 39
348 <212> TYPE: DNA
349 <213> ORGANISM: Artificial Sequence
```

VERIFICATION SUMMARYDATE: 06/07/2000PATENT APPLICATION: US/09/473,872TIME: 07:54:40

Input Set : A:\Jef-yool.txt
Output Set: N:\CRF3\06072000\I473872.raw